

<p style="text-align: center;">U.S. DEPARTMENT OF TRANSPORTATION</p> <p style="text-align: center;">FEDERAL AVIATION ADMINISTRATION</p> <p style="text-align: center;">TYPE CERTIFICATE DATA SHEET P7NE</p>	<p style="text-align: right;">TCDS NUMBER P7NE*</p> <p style="text-align: right;">REVISION: NUMBER 12*</p> <p>HAMILTON STANDARD.</p> <p>MODEL/S:</p> <p>14SF- 5 14SF-15 14SF-21 14SF- 6</p> <p>14SF-16 14SF-22 14SF- 7 14SF-17</p> <p>14SF-23 14SF- 8 14SF-18 14SF-24</p> <p>14SF-11 14SF-19 14SF-12 14SF-20</p> <p>14SFL11, 14SF-11E</p> <p style="text-align: right;">MARCH 18, 2002</p>
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Propellers of models described herein conforming with this data sheet (which is part of Type Certificate Number P7NE) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder      Hamilton Sundstrand Division  
United Technologies Corporation  
1 Hamilton Road  
Windsor Locks, CT 06096-1010

Type      Constant speed; hydraulic (See Notes 3 and 4)

Engine shaft      Flanged: 6.75" bolt circle

Hub material      Aluminum

Blade material:      Fiberglass covered aluminum spar

Number of blades      4

PROPELLER MODEL      14SF-5/6/7/8/11/12/15/16/17/18/19/20/21/22/23/24, 14SFL11 and 14SF-11E  
DESIGNATION

BLADE MODELS RIGHT / LEFT	MAXIMUM CONTINUOUS		<TAKE OFF>		NOMINAL DIAMETER	APPROXIMATE WEIGHT.
	SHP	RPM	SHP	RPM		
SFA13E1-OA / SFA13E2-OA	1,950	1,212	2,150	1,212	13.0'	303.0
SFA13F1-OA / SFA13F2-OA	1,950	1,212	2,150	1,212	13.0'	303.0
SFA13G1-OA / SFA13G2-OA	1,950	1,212	2,150	1,212	13.0'	304.0
SFA13L1-OA / SFA13L2-OA	1,950	1,212	2,150	1,212	13.0'	304.0
SFA13E1-OB / SFA13E2-OB	1,950	1,212	2,150	1,212	13.0'	302.0
SFA13M1-OA / SFA13M2-OA	1,950	1,212	2,150	1,212	13.0'	304.0
SFA13F1-OB / SFA13F2-OB	1,950	1,212	2,150	1,212	13.0'	302.0
SFA13G1-OB / SFA13G2-OB	1,950	1,212	2,150	1,212	13.0'	303.0
SFA13J1-OA / SFA13J2-OA	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13J1-OB / SFA13J2-OB	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13K1-OA / SFA13K2-OA	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13K1-OB / SFA13K2-OB	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13N1-OA / SFA13N2-OA	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13P1-OA / SFA13P2-OA	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13R1-OA / SFA13R2-OA	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13N1LOA	2,500	1,212	2,750	1,212	13.0'	314.0
SFA13U1-OA / SFA13U2-OA	1,950	1,212	2,150	1,212	13.0'	304.0
SFA13S1-OA / SFA13S2-OA	2,308	1,212	2,618	1,212	13.0'	314.0
SFA13T1-OA / SFA13T2-OA	2,308	1,212	2,618	1,212	13.0'	314.0

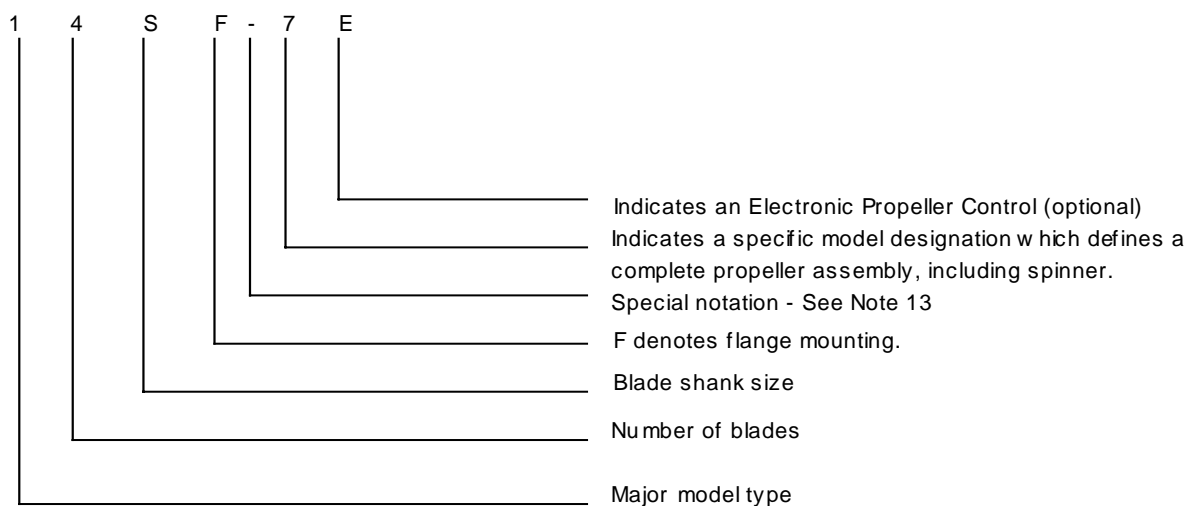
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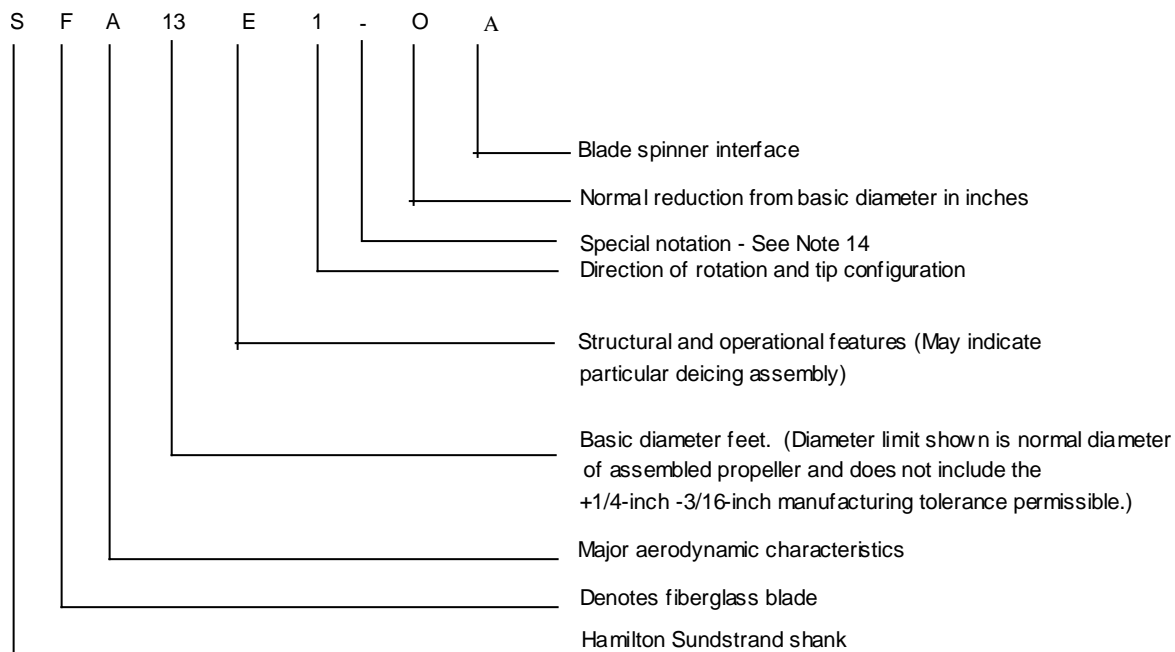
CERTIFICATION BASIS:	FAR 35, Amendment 35-1 through 35-6 of September 23, 1988, and Federal Register Docket No. 94ANE-50.									
MODEL:	14SF-5/6	14SF-7/8	14SF-11/12	14SF-15/16	14SF-17/18	14SF-19//20	14SF-21/22	14SF-23/24	14SF-L11	14SF-11E
TC APPLICATION DATE:	06/25/82	06/25/82	08/06/87	08/06/87	08/06/87	12/21/87	10/12/89	01/09/91	11/25/92	09/25/95
TC ISSUED:	06/29/84	06/29/84	09/23/88	09/23/88	09/23/88	09/23/88	01/09/90	01/30/91	12/11/92	02/22/96
PRODUCTION BASIS:	Production Certificate No. 14									

## NOTES

NOTE 1: HUB MODEL DESIGNATION:



NOTE 2. BLADE MODEL DESIGNATION



NOTE 3: PITCH CONTROL Propeller control specified on approved model parts list.

NOTE 4:	(a) FEATHERING:	Full feathering with propeller control specified on approved model parts list.												
	(b) REVERSING:	Full reversing with propeller control specified on approved model parts list.												
NOTE 5:	LEFT-HAND MODELS:	The left-hand version of an approved propeller model has the same rating and diameter limitations as listed for the right-hand model.												
NOTE 6:	INTERCHANGEABLE BLADES:	<p>Blades listed are aerodynamically similar. Only blades listed under the same type are structurally similar. A higher type number implies a higher strength.</p> <p>The following defines the degree to which these blades may be used interchangeably without a flight performance test and without a vibration survey:</p> <p>Type 2 blades may replace Type 1 blades, but not vice-versa.</p> <p>Reference should always be made to the ratings of the blades. The blades with different model numbers cannot be incorporated in the same propeller unless the aircraft specification specifically permits this.</p> <table><tr><td>TYPE 1</td><td>TYPE 2</td></tr><tr><td>SFA13E1-0A, SFA13E1-0B</td><td>SFA13J1-0A, SFA13J1-0B</td></tr><tr><td>SFA13F1-0A, SFA13F1-0B</td><td>SFA13K1-0A, SFA13K1-0B</td></tr><tr><td>SFA13G1-0A, SFA13G1-0B</td><td>SFA13N1-0A, SFA13S1-0A</td></tr><tr><td>SFA13L1-0A, SFA13M1-0A</td><td>SFA13N1L0A, SFA13T1-0A</td></tr><tr><td>SFA13U1-0A</td><td></td></tr></table>	TYPE 1	TYPE 2	SFA13E1-0A, SFA13E1-0B	SFA13J1-0A, SFA13J1-0B	SFA13F1-0A, SFA13F1-0B	SFA13K1-0A, SFA13K1-0B	SFA13G1-0A, SFA13G1-0B	SFA13N1-0A, SFA13S1-0A	SFA13L1-0A, SFA13M1-0A	SFA13N1L0A, SFA13T1-0A	SFA13U1-0A	
TYPE 1	TYPE 2													
SFA13E1-0A, SFA13E1-0B	SFA13J1-0A, SFA13J1-0B													
SFA13F1-0A, SFA13F1-0B	SFA13K1-0A, SFA13K1-0B													
SFA13G1-0A, SFA13G1-0B	SFA13N1-0A, SFA13S1-0A													
SFA13L1-0A, SFA13M1-0A	SFA13N1L0A, SFA13T1-0A													
SFA13U1-0A														
NOTE 7:	ACCESSORIES:	<p>(a) Propeller deicing: Electrical deicing system specified on approved model parts list and installed in accordance with the propeller manufacturer's instructions.</p> <p>(b) Propeller spinner: Spinner specified on approved model parts list.</p>												
NOTE 8:	SHANK FAIRINGS:	Not applicable												
NOTE 9:	SPECIAL LIMITS:	<p>Airworthiness limitations, if any, are specified in System Maintenance Manual P5188 for the 14SF-5/6; P5185 for the 14SF-7/8; P5196 for the 14SFL11 and the 14SF-11/12; P5197 for the 14SF-15/16, 14SF-21/22, and 14SF-23/24; and P5198 for the 14SF-17/18 and 14SF-19/20, P5207 for the 14SF-11E.</p> <p>Operating limitations for the Model 14SFL11 on the ATR72-210 aircraft: 1) Do not exceed 1100 prpm at airspeed below 30 kias with the exception of item 3. 2) Do not exceed 9630 ft-lbs torque at airspeed below 30 kias with the exception of item 3. 3) Permissible to operate to 10,832 ft-lbs propeller torque under the following conditions; at the start of takeoff run, each duration to be less than 20 seconds.; Brief service checks or tests when necessary, each duration to be less than 2 minutes. 4) Operation on the ground, except during taxi, should be into the wind. 5) Avoid static operation between 500 and 780 prpm. 6) Avoid operation in feather above 5000 ft-lbs propeller torque.</p>												
NOTE 10:	SPECIAL NOTES:	Aircraft installations must be approved as part of the aircraft type certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.												
NOTE 11:	LIFE-LIMITED PARTS:	See Note 9.												
NOTE 12:	ALTERNATE RPM:	For normal takeoff and max. continuous operation, an 1100 to 1212 alternate RPM is approved for all unlimited life propellers for the approved installations and Model Numbers listed on page 1.												
NOTE 13:	SPECIAL NOTATION:	<p>This position of the hub model designation normally consists of a hyphen. This hyphen is replaced by a letter to designate a safety related characteristic. The meaning of these letters is identified below.</p> <p>"L" is for LIFE-LIMITED parts. See Note 9.</p>												

## NOTE 14: SPECIAL NOTATION:

This position of the blade model designation normally consists of a hyphen. This hyphen is replaced by a letter to designate a special characteristic. The meaning of these letters is identified below.

"L" is for LIFE-LIMITED parts.  
See Note 9.

"P" is used to identify a blade that "as produced or manufactured" met specific requirements.

"R" is used to identify a blade that has been reworked to meet specific requirements.

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